

Claims

What is claimed is:

1. A cross-draft aircraft spray booth for aircraft painting and stripping comprising:
 - an end wall having an opening, said opening adapted to allow the ingress and egress of the aircraft;
 - a first side wall segment, adjacent to said end wall;
 - a second side wall segment, opposing said first side wall segment;
 - a third side wall segment adjacent to said first sidewall segment, said third sidewall segment is stepped inward from said first sidewall segment;
 - a fourth sidewall segment adjacent to said second sidewall segment, said fourth sidewall segment being stepped inward from said second sidewall segment and opposing said third sidewall segment;
 - a first transitional sidewall segment positioned between said first sidewall segment and said third sidewall segment;
 - a second transitional sidewall segment positioned between said second sidewall segment and said fourth sidewall segment;
 - a filtration unit opposing said end wall, said filtration unit adapted to capture paint overspray; and
 - a fan unit positioned downstream from said bank of filters, said fan unit adapted to create an airflow through said spray booth.
2. The cross-draft spray booth of claim 1, further including:
 - a carbon filter bank and a fume oxidizer to remove VOC's and odors.
3. The cross-draft spray booth of claim 1, further including a recirculating

air system.

4. The cross-draft spray booth of claim 1, wherein heated air is provided within said booth to cure the paint of a recently painted object.
5. The cross-draft spray booth of claim 1, wherein the first wall segment includes lighting to illuminate the aircraft.
6. The cross-draft spray booth of claim 1, wherein the second wall segment includes lighting to illuminate an aircraft.
7. The cross-draft spray booth of claim 1, wherein the width between the third and fourth side walls is from about 1/2 to about 2/3rds less than the width between the first and second side walls.
8. The cross-draft spray booth of claim 1, wherein the end wall includes a plurality of doors adapted to enclose the aircraft within the spray booth.
9. An aircraft contamination collection booth for aircraft comprising:
 - an entryway adapted to permit the ingress and egress of aircraft;
 - an airflow generation unit adapted to move air through the booth;
 - an end wall, opposing the entryway, the end wall including a filtration system adapted to remove airborne contaminants;
 - the booth having sidewalls formed to have a first section with a first width and a second section with a second width wherein the first width is approximately 2/3rds greater than the second width such that the airflow rate in the second width is greater than the airflow rate of the first width.
10. The aircraft contamination collection booth of claim 9, wherein the entryway includes doors adapted to seal the entryway to the booth.

11. The aircraft contamination collection booth of claim 9, wherein the filtration system includes a plurality of removable filtration units.
12. The aircraft contamination collection booth of claim 9, wherein the sidewalls include a plurality of lights adapted to illuminate the aircraft.
13. The aircraft contamination collection booth of claim 9, wherein the booth includes an air intake to permit air to enter the booth.
14. The aircraft contamination collection booth of claim 9, wherein the side walls include a tapered section to transition from the first section to the second section.
15. An aircraft contamination collection booth for aircraft comprising:
 - an entryway having an opening adapted to permit the ingress and egress of the aircraft;
 - an end wall opposing the entryway, the end wall including a filtration system;
 - a fan adapted to create a continuous airflow through the booth;
 - a first sidewall segment, positioned adjacent the entryway;
 - a second sidewall segment, opposing the first sidewall segment;
 - a first tapered wall segment adjacent to the first sidewall segment at a first end and adjacent to the end wall at a second end;
 - a second tapered wall segment adjacent to the second sidewall segment at a first end and adjacent to the end wall at a second end.
16. The aircraft contamination collection booth of claim 15, further including:
 - a carbon filter bank and a fume oxidizer to remove VOC's and odors.
17. The aircraft contamination collection booth of claim 15, further including a recirculating air system.

18. The aircraft contamination collection booth of claim 15, wherein heated air is provided within said booth to cure the paint of a recently painted aircraft.
19. The aircraft contamination collection booth of claim 15, wherein the first wall segment includes lighting to illuminate the aircraft.
20. The aircraft contamination collection booth of claim 15, wherein the second wall segment includes lighting to illuminate an aircraft.
21. The aircraft contamination collection booth of claim 15, wherein the width of the booth after the first and second tapered wall segments is reduced by about $2/3$ rds.
22. The aircraft contamination collection booth of claim 15, wherein the end wall includes a doors adapted to enclose the aircraft within the booth.